National Weather Service
Storm Data and Unusual Weather Phenomena

November 2005

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm
IOWA, Central									
Greene County									
10 S Scranton	**12**	**1542CST**			**0**	**0**	**5K**		**Hail(1.00)**
Guthrie County									
5 WNW Stuart	**12**	**1547CST**			**0**	**0**	**10K**		**Hail(1.75)**
Greene County									
8 S Scranton	**12**	**1550CST**	**1**	**45**	**0**	**0**	**5K**		**Tornado (F1)**
Tornado touched down in open areas south of Scranton, then lifted.									
Greene County									
3 NE Grand Jct	**12**	**1553CST**			**0**	**0**	**15K**		**Hail(2.75)**
Greene County									
3 E Dana	**12**	**1556CST**			**0**	**0**	**15K**		**Hail(2.50)**
Dallas County									
Linden	**12**	**1606CST 1609CST**			**0**	**0**	**10K**		**Hail(1.75)**
Dallas County									
1 S Linden	**12**	**1614CST**			**0**	**0**	**15K**		**Hail(2.50)**
Dallas County									
Woodward	**12**	**1626CST**			**0**	**0**	**5K**		**Hail(1.00)**
Boone County									
1.5 SSE Boxholm to 3 NNW Pilot Mound	**12**	**1627CST 1633CST**	**5.1**	**125**	**0**	**0**	**250K**		**Tornado (F1)**
Tornado moved across Boone County and moved into Webster County.									
Dallas County									
2 S Minburn	**12**	**1627CST**			**0**	**0**			**Hail(0.75)**
Dallas County									
2 W Minburn to Bouton	**12**	**1628CST 1641CST**	**12**	**100**	**0**	**0**	**2.5M**		**Tornado (F2)**
Tornado touched down in Dallas County and moved into Boone County.									
Webster County									
5 SE Dayton to 6 E Dayton	**12**	**1633CST 1641CST**	**6.7**	**150**	**0**	**0**	**450K**		**Tornado (F2)**
Tornado moved in from Boone County, then tracked into Hamilton County.									
Boone County									
6 W Madrid to 4 WNW Madrid	**12**	**1641CST**	**1**	**100**	**0**	**2**	**750K**		**Tornado (F2)**
Tornado moved from Dallas County into Boone County. Two injuries occurred in Woodward									
Hamilton County									
Stratford to 6 NNE Stratford	**12**	**1641CST 1648CST**	**5.8**	**150**	**1**	**3**	**11.7M**		**Tornado (F3)**
Tornado moved from Webster County in to Hamilton County. One woman was killed when her house collapsed. F82PH									
Boone County									
5 NW Madrid to 10 NNE Madrid	**12**	**1648CST 1654CST**	**6**	**75**	**0**	**0**	**200K**		**Tornado (F1)**
Tornado hit one home, but remained mostly in open countryside.									
Hamilton County									
Webster City	**12**	**1650CST**			**0**	**0**			**Hail(0.75)**
Story County									
5 W Ames	**12**	**1650CST**			**0**	**0**	**1K**		**Hail(0.88)**

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm

IOWA, Central

Story County

Ames 12 **1656CST** **0.2** **30** **0** **0** **2K** **Tornado (F0)**
1658CST
Tornado touched down briefly on the southwest edge of Ames. The tornado showed anticyclonic rotation

Boone County

10 ESE Boone to 10 E Boone 12 **1658CST** **3** **75** **0** **0** **100K** **Tornado (F0)**
1701CST
Tornado touched down in Boone County and moved into Story County.

Story County

1 NW Ames to 3 S Story City 12 **1701CST** **9** **100** **0** **1** **250K** **Tornado (F2)**
1712CST
Tornado moved from Boone County into Story County. One minor injury occurred on the west side of Ames

Story County

1.6 SW Story City to Story City 12 **1715CST** **1.6** **50** **0** **0** **50K** **Tornado (F0)**
1718CST
Tornado was on the ground briefly southwest of Story City.

Story County

1 W Roland to 3 NNE Roland 12 **1720CST** **4** **75** **0** **0** **580K** **Tornado (F1)**
1723CST
Tornado developed in Story County and moved into Hamilton County.

Hamilton County

9 SE Ellsworth 12 **1723CST** **1** **75** **0** **0** **75K** **Tornado (F1)**
1724CST
Tornado moved from Story County and across southeast Hamilton County, then into Hardin County.

Hardin County

4 WSW Garden City to 3 S Radcliffe 12 **1724CST** **3** **75** **0** **0** **75K** **Tornado (F1)**
1727CST
Tornado moved into the county from Hamilton County.

Hamilton County

4 S Williams 12 **1727CST** **1.5** **30** **0** **0** **10K** **Tornado (F0)**
1730CST
Brief touchdown south of the town of Williams.

Hardin County

4 NNW Steamboat Rock 5 N Steamboat Rock 12 **1750CST** **0.7** **30** **0** **0** **10K** **Tornado (F0)**
Brief tornado touchdown north of Steamboat Rock.

Monroe County

7 SE Albia 12 **1840CST** **1.5** **50** **0** **0** **50K** **Tornado (F1)**
1843CST
Tornado touched down southeast of Albia and tracked across mostly open country

A very intense weather system developed over the central U.S. during the day on the 12th. A strong upper level system moved through the area with mid and upper level winds in the 70 to 90 kt range. Low level winds of 35 to 50 kts transported moisture north into the system. High temperatures reached the mid 60s to low 70s, with dew point readings approaching 60 by late afternoon. A surface low developed over northern Kansas during the previous night and lifted northeast into eastern South Dakota during the afternoon of the 12th, then into central Minnesota as a 985 mb low by late evening. The atmosphere became quite unstable with CAPE values reaching 1000 J/kg by late afternoon. The Lifted Index values were in the -5 C. range. Being as it was in November, the freezing level was quite low during the event, in the 10,000 to 11,000 foot range. Though the soundings were quite unidirectional, there was plenty of shear with zero to 6 km shear values around 65 kts. Thunderstorms erupted during the afternoon in west central in to southwest Iowa. The storms became severe quite quickly. Initially the storms produce quarter to golf ball size hail, with 2 1/2 inch diameter hail falling in Dallas County. Hail up to baseball size fell in Greene County as well. The system transitioned into a tornadic system within an hour with several tornadoes touching down in the central sections of the state. At least 9 communities were hit by tornadoes and 65 homes damaged or destroyed. An 82 year old woman was killed in Stratford when the tornado demolished her home. In a 2 or 3 block area of downtown Woodward, at least 12 houses were totally destroyed. There was

IOWA, Central

one minor injury in Ames, two serious injuries in the Woodward area, and three injuries in Stratford. Due to the extensive damage to property caused by the tornadoes, Iowa Governor Vilsack declared Boone, Story, Webster, Dallas and Hamilton Counties disaster areas.

A long-lived tornado tracked through several counties across central Iowa during the late afternoon hours of Nov. 12, 2005. The tornado path is estimated at 27.5 miles long and between 100 and 150 yards wide along the damage path.

Tornado (1) initially touched down just west of E Avenue (just south of Boxholm in northwest Boone county), one half mile south of Boone County Highway E18 at approximately 4:27 p.m as an F1 tornado. The tornado then tracked northeast across E Avenue, hitting a farm just north of E18, damaging the home and some out buildings. It also flipped over one pickup truck and killed two horses at this location.

The tornado continued northeast, spreading debris across F Avenue just north of 125th Street as it maintained F1 intensity. Two additional homes were damaged with outbuildings destroyed as the tornado tracked northeast across G and H Avenues near 105th Avenue. It then intensified to an F2 tornado as it crossed the Boone/Webster county line. Another home was heavily damaged and a large outbuilding destroyed just north of the Boone/Webster county line. The tornado quickly moved northeast, crossing 390th Street and headed toward the Des Moines River, weakening to an F1 tornado.

A continuous, but weak damage path was observed crossing the river as the tornado tracked across open farmland and land adjacent the Des Moines River. The tornado has been rated an F1 tornado during this time. After crossing County D64 in Webster county, the tornado struck another farm near 370th Street and Washington Avenue, damaging the residence and destroying a machine shed along with most of its contents. The tornado again intensified to an F2 at this location.

The tornado then headed toward Stratford, crossing the Webster and Hamilton county line just west of County Road D54. The tornado entered Stratford at 4:46 p.m. on the west-central end of town, heavily damaging many homes. The tornado crossed the city park and then exited the city near the north-central portion of Stratford. Numerous homes were heavily damaged with one fatality.

As the tornado left Stratford, it continued on a northeast track, lifting and dropping to the ground several times as an F0 and F1 tornado. It damaged three additional farms northeast of Stratford with the last damaged farm north of 320th Street and west of County Road R21 in Hamilton County.

Tornado (2) touched down one mile west of Minburn in Dallas County according to the aerial survey. The tornado tracked northeast for about eight miles, producing F0-F1 damage before intensifying near Highway 141. The tornado produced F2 damage at a farm one mile southwest of Woodward, and continued to produce F2 damage through the south and east portions of Woodward. The tornado dissipated one mile northeast of Woodward. Severe houses slid off their foundations in Woodward, and a double-wide home was flipped upside down into the street. Total path length was 11 miles.

Tornado (3) touched down in open fields one mile northwest of Madrid. It hit a home three miles north of Madrid on Highway 17, producing F1 damage. One other farm site sustained damage as the tornado moved northeast. The tornado dissipated after a six mile track.

Tornado (4) started just west of Ames near the Highway 30 and Lincoln Way Split, according to the aerial survey. The tornado produced F1-F2 damage on the northwest fringe of Ames. It weakened as it moved northeast, before intensifying again and produced F2 damage to a farm site just south of Gilbert. F1 damage occurred as the tornado crossed highway 69. The tornado dissipated three miles south of Story City after a 10 mile track.

Tornado (5) was a short-lived satellite tornado that was on the ground for 1.6 miles ending at the southwest edge of Story City. The aerial survey showed very minor damage.

Tornado (6) developed one mile west of Roland and tracked across the extreme southeast corner of Hamilton county before entering Hardin county. The tornado produced damage up to F1 intensity to rural farm sites in far northern Story county and five miles south of Radcliffe in Hardin county. The KCCI-TV aerial survey indicated the track was nine miles in length.

Tornado (7) was a brief touchdown just south of Williams in Hamilton County. No damage was found from this brief tornado and it is not shown here.

Tornado (8) was briefly sighted near Blakesburg in Monroe County. The tornado produced minor damage to a farm building but was not surveyed.

Tornado (9) touched down briefly north of Steamboat Rock in Hardin County. The tornado caused little damage.

Tornado (10) was actually the first tornado of the day. It formed from the same supercell that eventually moved northeast into the

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm

IOWA, Central

Stratford area. The tornado caused little damage as it moved through fields south of the Scranton Area.

Tornado (11) was a brief touchdown on the southwest edge of the Ames City limits. This tornado was from the same parent cell as the previous tornado that touched down in Ames, but was distinct. The tornado was weak and lifted lawn chairs and caused some shingle damage. This tornado was ANTICYCLONIC in nature.

IAZ004>007-015>017-023>027-033>038-044>049-057>062-070>074-081>084

Emmet - Kossuth - Winnebago - Worth - Palo Alto - Hancock - Cerro Gordo - Pocahontas - Humboldt - Wright - Franklin - Butler - Sac - Calhoun - Webster - Hamilton - Hardin - Grundy - Crawford - Carroll - Greene - Boone - Story - Marshall - Audubon - Guthrie - Dallas - Polk - Jasper - Poweshiek - Cass - Adair - Madison - Warren - Marion - Adams - Union - Clarke - Lucas

12	**1800CST**	**0**	**0**	**2.0M**			**High Wind (MG57)**
13	**0100CST**						

As the low pressure system mentioned in the narrative above lifted northeast, a cold front swept through the state. In the wake of the front, strong subsidence took place and very strong winds were mixed down in the dry slot behind the front. Winds picked up to 35 to 45 MPH in most areas with scattered gusts in excess of 58 MPH. The strongest wind gust was recorded in central Iowa with a 65 MPH wind gust in Windsor Heights. Damage from the strong winds was limited by the fact that most of the leaves had fallen out of the trees. There were spotty reports of tree and power line damage caused by the high wind. The strong winds affected much of the Des Moines CWA with 39 counties reporting either wind gusts of 58 MPH or sustained winds of 40 MPH or higher.

IAZ004>007-016>017-024>028-035>039-050

Emmet - Kossuth - Winnebago - Worth - Hancock - Cerro Gordo - Humboldt - Wright - Franklin - Butler - Bremer - Webster - Hamilton - Hardin - Grundy - Black Hawk - Tama

15	**1900CST**	**0**	**0**	**510K**			**High Wind (MG50)**
16	**0200CST**						

An intense low pressure lifted northeast across northwest Iowa. In the wake of the low, strong northwest winds blew across the state. Winds in most areas were in the 30 to 40 MPH range with gusts to over 50 MPH. Winds did reach 58 MPH in Hamilton County at a mesonet site in Williams. During the event, sustained winds were around 40 MPH for a period of a couple of hours over much of the northeast third of the state that evening.

Wayne County							
5 SW Humeston	**27**	**1720CST**	**0**	**0**	**1K**		**Hail(0.88)**
Wayne County							
1 W Humeston	**27**	**1722CST**	**0**	**0**	**1K**		**Hail(0.88)**
Warren County							
4 NNW Lacona	**27**	**1753CST**	**0**	**0**	**1K**		**Hail(0.88)**
Warren County							
1 E Hartford	**27**	**1813CST**	**0**	**0**	**1K**		**Hail(0.88)**
Jasper County							
4 N Mingo	**27**	**1846CST**	**0**	**0**	**5K**		**Hail(1.00)**

Intense low pressure moved into Kansas during the day on the 27th. By the early evening, the low had moved into northeast Kansas. Deep moisture was drawn north into the central U.S. on a 50 kt low level jet. Dew Points were in the 50s across much of Iowa during the day. Clouds held temperatures in the 50s as well. The atmosphere became quite unstable for late November with most unstable CAPE values in the 1000 to 2000 J/kg range. Shear in the 0 to 6 km layer reached 40 to 65 kts with the Showalter Lifted Index falling to around -2 C. The storms developed and moved into the area rather quickly. Gusty winds of 35 to 50 MPH occurred with the stronger storms, along with pea to marble size hail. With the freezing level around 9000 feet, it was quite easy for the storms to produce hail. A few of the storms became strong enough to produce nickel size hail